

The Humble TIN CAN

A Tin Can Dump

WHEN the average American housewife buys a can of corn, peas or what not, she gives her attention solely to the contents, the can being hurried into the garbage can without any thought as to what becomes of it. To her the can is just so much waste and to be rid of quickly.

As a matter of fact by her throwing away the can she is unwittingly putting that can to its first step of rejuvenation to eventually return her in some other form. In New York there is a beautiful home that might well be called a "Tin Can House," not because it was constructed of cans, for it was not, but because its owner erected the structure out of the proceeds of what he made through tin cans discarded by housewives.

This man was the first to realize that there was value in the tin cans that were to be found in quantities on the city dump. He was a poor man and he began his trade in the cans in a small way. First he took the cans, cut off the ends, flattened out the tin and used the pieces in the repairing of roofs.

The easiest way to get the ends off was to throw the cans into a fire and melt them off. In so doing the man discovered that there was considerable value in the tin.

For years the tin can was a good quality, but it has its uses, particularly as a sash weight, and thus grew into the sashweight making industry, a business that employs many thousands of persons.

There are today but few large cities in which there are not sashweight foundries, and the waste of the material is junk from a goodly portion of the business of making these cans.

Although everyone is familiar with canned goods, for the cans with their highly colored wrappers are to be seen everywhere, few realize the extent of the business of making these cans.

It is estimated that the annual output of cans is two thousand million, which placed end to end, would cover a distance of 100,000 miles and would girdle the earth four deep. What is

Shanty Piled with Tin from Cans



Acres of Cans at Foundry

more the output is increasing each year and not a can goes out to lead a life of idleness. Every one is filled. The farm, the orchard, the mines and the waters furnish the material which is handled by hundreds of thousands of men, women and children, packed in the cans and then sent to all parts of the earth.

While the user of tinned products generally regards the can of no value there are countries in which the can is held in more esteem than its contents. In the wilds of Africa, for instance, there are many chiefs who take pride in their collection of cans, polished to a high degree. In the far North the natives regard the tin can with reverence, although the day is fast approaching when they, too, will see nothing of value in the tinned receptacle, and will throw it away just as their American brothers do.

Although the art of preserving fruits and vegetables is an old one, known centuries ago, the age of the tin can is young. Prior to 1850 but few cans were made, and the small amount of foodstuff thus preserved and put on the market was regarded with suspicion. When the Civil War broke out and enormous armies were put in the field the question of feeding them was the greatest of all problems. Napoleon is said to have

been the man who discovered that an army travels on its belly, and there is little doubt that had he had the advantages of having tinned food his Russian campaign would have ended differently.

Just after the close of the Civil War the canning industry in the United States took a great forward stride, and by the time the Spanish-American war broke out there were 2,000 canneries in the country, producing fish, meat, vegetables and fruit of every description. Canned goods made it possible for the American army to be victorious in the Philippines, where native foods were unfit for consumption by our soldiers.

At this period, however, most of the tin that was used in the making of the cans was imported. Today most of the tin is made in this country by a score of great factories, whose output aggregates more than a billion pounds a year.

There has also been a change in the methods of the manufacture of the cans. The original can was soldered and was crudely put together by hand. Today there are types of cans used that are put together without solder and made by machinery so rapidly that they have to be tallied on a counting machine.

In the days before the can there

were great areas of land that could not be cultivated owing to the distance the products had to be hauled to the nearest source of consumption. This was especially true of fruits and vegetables that could not be plucked green and permitted to ripen in transit.

The industrious packers have now changed all that. When they found that there were districts that were fertile they established canneries there and entered into contracts with neighboring farmers to grow things for them. Thus in many sections of the country today fruits and vegetables are sold to the packers before they are picked.

The packing of fish is one of the great industries not only on the Atlantic but on the Pacific coast. In the cod and salmon fisheries several thousand vessels and about 100,000 men find steady employment. The oyster, clam and scallop industry employs nearly as many. Even crab meat, for years regarded as impossible to can, finds its way into the tinned box.

In the meat industry the annual canned output runs into enormous figures. Beef, ham and chicken are as

Machine that Automatically Caps and Seals Cans



Cases of Cans Leaving Factory

well known in South Africa as in the United States.

The tin can has conquered the seasons. In winter one may eat fruits and vegetables practically as tasty as though they were just plucked. Indeed, with canned fruits one may make pies that rival those that mother used to make.

The making of the tin cans is, naturally, a huge industry in itself, employing hundreds of thousands of men, women and boys and representing an investment of many millions of dollars. It has led to the development of tin ore mining upon a gigantic scale, a thing that only a comparatively few years ago was not thought possible. Until the mining of ore in this country was developed practically all of the tin was imported. Today but little tin is imported.

Machinery plays a most important part in the making of the tin can, not only in the fashioning of the plates, but giant machines, intricate of mechanism, take those plates, cut, shape, crimp and solder them so fast that one can scarcely count them as they roll out, complete and ready for the packer.

Scores of inventions for the im-

provement of the tin can have been put upon the market. There is a type of can that has an airtight cap that can be removed without the aid of a cutter. More than that the can can be put back again after the contents have been broached. These cans are used for paints, coffee and many other things that do not spoil by being opened for a while and then closed again. Once a can of fruit or vegetables is opened the contents must be taken from the can or they will spoil.

Innumerable other types of cans may be seen—cans that require keys—and yet the ideal has not yet been reached. Of more than 100 applications for patents for the improvement of tin cans more than 100 have been granted and yet the demand for the perfect can has not yet been answered. Whether it will come is a question.

But whether the perfect can comes this year or next is of little interest to those who deal in the can after it has ceased to be of use as a carrier. Indeed, to the foundry man the tin can represents to him just as much iron of an inferior grade and, as such, is only fit to be melted and cast into window weights, the common fate of millions of cans that are picked up in the alleys and on the dumps.

"We buy the cans by the pound," said a foundry man, "and while I haven't heard of anyone making a fortune out of the business in recent years, the founders of the industry did very well; at least that is what I have heard."

"The tin can is not tin at all. The only tin about it is that which is melted by a melting process, just as silver or gold is put on some other metal. The tin can is really an iron can tinned. The coating of tin is so thin that one cannot measure it. It will remain there, however, for some time, especially on the inside."

"When the can has been used there is not much of the tin either on the inside or outside. The solder remains, however, and this is worth something when recovered. Some of the smaller foundries are careful about recovering the solder, but in

the larger establishments the can, solder and all is thrown into the pot and melted down, after which the metal is cast into window weights."

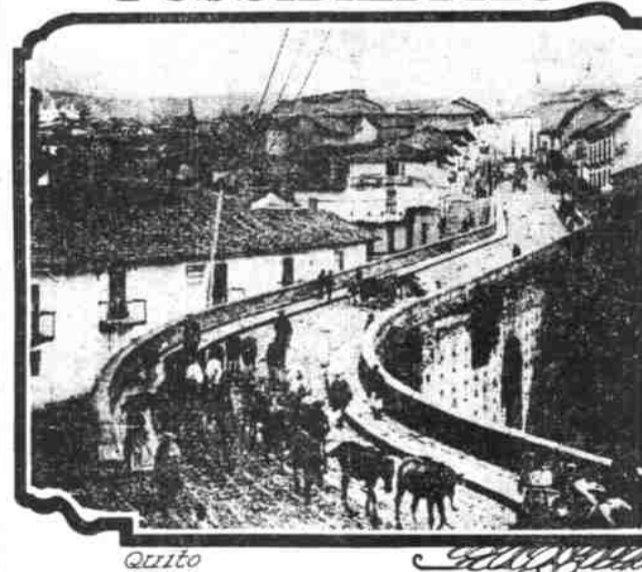
To those who were in the early rush to the Klondike the greatest aid was the tin can, for in the cans was the provender on which most of the prospectors lived. Meat, fish, vegetables, fruit, milk and other foods, safely sealed in tin receptacles, were packed across the narrow trails into the wilderness. When the cans were emptied the resourceful pioneers turned them into other uses. The larger cans that had held oil were converted into stoves, while the smaller cans were used for lamps, crude to be sure, but more efficient than the tallow dip.

The tin cooking stove was one of the greatest boons. The prospector did not dread moving his camp. Slinging his home-made cook stove across his back and with his dog sledges laden with other equipment he had no hesitancy about "hitting the trail." There was comparatively little danger about the tin cooking stove, either, for the way was plainly marked by the discarded tin cans on either side. The first winter in Klondike City will ever be known as "tin can year," because of the number of tin cans that came into the camp. It was also during that winter, or rather, the following spring, that some genius thought of tinning his house with the old cans, thereby starting everyone else upon the same course.

Handy men made cooking utensils out of the cans and made good money peddling their wares. Until the building of the railroad the tin can had its uses, filled or empty, and there are today standing some of those tinned houses that have given to the world the name Tin City.

There is, however, a real Tin city, a community in the heart of the tin ore district in Alaska, but those who made the early "rush" to the gold mine region will never forget the part that the tin can played. Without the tin can few would have been able to have made more than a start.

ECUADOR—A LAND OF POSSIBILITIES



Quito



Cacao Trees



Cacao Ready for Export, Guayaquil



Mt. Chimborazo

constructed, so that none of its streets are less than 100 feet wide. This has made for better health conditions and has also minimized the fires which formerly were of frequent occurrence. All the buildings, even to the large Cathedral, are of bamboo and light timber, the most suitable material for the earthquake belt.

After ten years of extremely difficult construction, the Guayaquil and Quito Railway was completed in time to carry passengers from the coast to the exposition held at the capital in 1909. The distance between the terminals is approximately 300 miles, and through nearly its entire length the road traverses interesting and beautiful country. Starting in the rich tropical plains, it carries the traveler through fertile mountain valleys, where the products of the temperate zone are grown and flocks are pastured at elevations of 10,000 feet or more. The only railroad at all resembling this is that running up the Darjiling, in the Himalayas. In both cases there is the experience of rapid passage through almost every description of climate and the presentation of the greatest diversity of animal and vegetable life.

Quito is built upon the breast of the volcano Pichincha, at an altitude of 12,000 feet. The mountain rears its ragged head 4,000 feet higher. There

have been but three eruptions since the Spanish invasion, the last in the middle of the seventeenth century. When Quito was almost entirely destroyed. An ancient city of the Cara race, the capital of the Shiri dynasty, stood on this site in olden times. It was captured by the Incas shortly before the coming of the conquering Spaniards from the north.

On these table lands the climate is temperate and delightful the year round. Even upon the lowlands it is seldom extremely hot, notwithstanding Ecuador is right under the equator. A breeze which the Indians call "chandi" blowing from the snowy range, tempers the atmosphere and the thermometer hardly ever registers above 90 degrees.

The country is on the verge of the arid coastal belt of Western South America, but it enjoys ample rainfall. Indeed, in parts it is somewhat excessive. Guayaquil is one of the wettest cities on earth. In the south of the country a peculiar phenomenon is occurring, where the sandy desert of Northern Peru is steadily advancing into Ecuador. Here, and in a few other parts, irrigation is a necessary adjunct to successful cultivation.

Ecuador, like Colombia, is a country of great possibilities, but little development. Its area of 116,000 square miles is

about twice the extent of Illinois. Only a very small proportion of the extremely fertile lands of the Republic are cultivated. Large expanses of upland valley and rich mountain sides that lie fallow will one day yield great harvests of cereals. A noted British economist predicted that the world will in comparatively short time run short of grain. It is certain that in making his calculation, with its alarming conclusion, he overlooked potential sources of supply in South America, which in the aggregate would make a vast area. A similar solution may be sought for the growing shortage in the world's wheat supply. The grazing grounds in South America are capable of supporting enough cattle to provide all the meat eaters of the earth. Great Britain has been drawing largely upon Argentina for years, and we are beginning to look toward that source. When it proves unequal to the demand, other areas will be available. All the cattle in the United States might be accommodated in the Orinoco Valley and still leave the vast plains of Brazil for further use.

The population of Ecuador is about 1,500,000. It is made up mainly of Indians scattered through the country in little hamlets. After Guayaquil and Quito there is but only one large city, and that is Cuenca, the trade center of the south, which has a population of about 40,000. Loja, near the Peruvian border, and Ibarra, are considerable towns, but the population of neither exceeds 10,000.

That the country is but little developed may be gathered from the fact that the average value of its exports is something less than \$8 per capita per annum, and its imports only about \$5. With the introduction of capital, which may be expected in the near future, and the exploitation of the great resources of Ecuador these figures will rapidly multiply.

The chief exports are cacao, coffee, rubber, and vegetable ivory. Of these the first is the most valuable and promising because the world's demand is constantly increasing, and there is no prospect of over production. Coffee on the other hand is subject to violent fluctuations and sudden drops in price.

The production of cacao in Ecuador has decreased in recent years. This is due to carelessness in the manage-

ment of the plantations and neglect to plant fresh areas with the valuable tree. Many of the owners are men who for years have derived large incomes from their properties without effort and who live in Europe contentedly, giving no attention to the cacao orchards, nor making any provision for the future. The opportunity in this direction for the enterprising foreigner is great, but in order to avail himself of it he must have capital and be willing to wait a considerable period for returns. The cacao tree will not begin to yield until the seventh year after planting and then requires three or four years more to arrive at full productiveness. But when that condition is at last reached, the owner of the cacao plantation receives splendid returns on his investment and has an assured income for life which, with a little effort, may be extended over the lives of his children.

Classes about the monopolist. Owing to the police ordinance, the sardine was a source of livelihood to the Bretons.

One of the members of this fishing band was the first to prepare the fish in oil. The venture was a great suc-

cess and there were many imitators. From this time the fame of the sardine steadily increased.

In Egypt in 466 B. C. a law was passed permitting women to hold the sovereign power.

Foreign capital is to some extent engaged in this field. Two German companies are operating extensive cacao plantations with every prospect of the greatest success.

There are large tracts of wild rubber in Ecuador but the difficulties of access to them and of transporting the product to the coast make the gathering of it a somewhat formidable undertaking. From time to time expeditions penetrate the remote interior, and after many months return laden with the valuable product. As the authorities are unable to exercise any supervision over these expeditions, they adopt the easiest and quickest means of securing the gum, cutting down trees with a reckless disregard for effect upon the future supply. The quest for rubber is extending in Ecuador, as it is all over the world, and unless something is done to stop this reckless destruction the forests will be denuded of their most valuable product.

Ecuador is one of the world's chief sources of supply of lacua, or vegetable ivory. The substance, which is obtained from the wild palm tree, is used to make imitation bone buttons.

It is collected by Indians who transport it on the backs or on burros, from the mountainous regions to the coast.

Guayaquil is the centre of the trade in what we know as "Panama hats," all of which are made in Ecuador. The name is due to the fact that Panama was formerly the depot for the sale and distribution of them. The Indians of that country make straw head-gear, as they do in all tropical regions, but it is inferior in material and manufacture.

The making of Panama hats for export has been an important industry of Ecuador for more than half a century. As machinery can never be applied to it, the handicraft must remain a monopoly of the peasants. The toquilla straw, "paja," as the natives call it, needs to be carefully treated by a peculiar process, and the fabrication involves a delicate dexterity and skill. It is not, however, the case, as has so often been stated, that the plaiting is done under water. Ecuador offers great opportunities to individuals with moderate capital, as well as to corporations with large resources, for profitable enterprise in a number of directions. Tropical fruits should be cultivated much more extensively than they are. Stock raising is a profitable employment for money. The conditions in the Andean valleys are ideal for sheep.

Corporate efforts may secure handsome returns from working the mineral deposits. An American company has been successfully mining gold for years. Silver, zinc, iron, coal and petroleum are known to exist in paying quantities.

Aside from these fields of endeavor, Ecuador offers exceptional openings in the promotion of public utilities, such as railroad extensions, generation of water power, electric lighting, etc.

Art in Climbing the Stairs.

HERE are many women who form the opinion that climbing stairs is unhealthful, but this is a mistake when it is properly accomplished and the body is held erect. The bent-over position in climbing a stairway is a wrong one; the organs are compressed and

injured where they might be aided. The body should be held perfectly erect and the leg muscles made to carry it gracefully up the stairs. Bending over and attempting to make the body pull one up stairs is the hardest way to climb. It puts unnecessary strain on the back and gives the appearance

of weakness. At the foot of the stairs lift the skirt slightly with one hand, so that there will be no danger of tripping over it. Always take the center of the stairway and do not touch the banister. Step on the ball of the foot quickly and lightly from step to step.

Do not allow the heel to touch. Hold the hips still and allow the leg muscles to do the work. It has been said that a woman's temper has been told by her walk.

Empty bottles and odds and ends have no place about the bathroom. The old medicine chest should be immaculate. All the bottles should be plainly labeled.

Facts About Sardines.

HE sardine has been honored with a history, the writer being a person who has made a study of the small fish during the greater portion of his life. The sardine in the early days was brought in in small boats. Then came the police ordinance in 1798 in the interest of the poorer